

Amendment to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An x-ray tube (14) comprising:
a frame (16) ~~which encloses~~ configured to enclose an evacuated chamber (14);
and
an anode (12) disposed within the evacuated chamber, wherein ;
——the frame ~~including~~ includes a vessel (40, 40', 40", 40''') ~~which surrounds~~
configured to surround the anode, the vessel being defined by a combination of a liner
of a thermally conductive first material and a framework of a structural support second
material configured for supporting the liner and for providing at least one thermal
window through which the liner is in thermal contact with both the evacuated chamber
and a cooling fluid, the thermally conductive first material having (i) a with-high thermal
conductivity higher than a thermal conductivity of the structural support second material
and lower (ii) a deformation resistance and lower than a material-with-high deformation
resistance and lower thermal conductivity of the structural support second material.

2. (Currently Amended) The ~~An~~ x-ray tube according to claim 1 comprising:
a frame which encloses an evacuated chamber; and
an anode disposed within the evacuated chamber, wherein the frame includes a vessel which surrounds the anode, the vessel being defined by a combination of a first material and a second material, the first material having (i) a thermal conductivity higher than a thermal conductivity of the second material and (ii) a deformation resistance lower than a deformation resistance of the second material, wherein the vessel includes:
a liner ~~(64, 64', 64'', 64''')~~ formed from a thermally conductive material which at least partially defines the evacuated chamber; and
a framework ~~(62, 62', 62'', 62''')~~ which supports the liner and is formed from a structural material, the framework defining at least one thermal window ~~(80, 80', 80'', 82, 82', 124)~~ therein through which the liner is in thermal contact with both the evacuated chamber and a surrounding cooling fluid.
3. (Original) The x-ray tube according to claim 2, wherein the framework and the liner are concentric.
4. (Currently Amended) The x-ray tube according to claim 2, wherein the framework ~~(62, 62'', 62''')~~ surrounds the liner ~~(64, 64'', 64''')~~.
5. (Currently Amended) The x-ray tube according to claim 2, wherein the thermal window comprises at least one slot ~~(80, 80', 80'', 82, 82')~~ defined in the liner ~~(64, 64')~~.
6. (Currently Amended) The x-ray tube according to claim 5, wherein the at least one slot includes a plurality of angularly spaced slots ~~(80, 80', 80'', 82, 82')~~.

7. (Original) The x-ray tube according to claim 2, wherein the thermally conductive material has a thermal conductivity which is at least twice that of the structural material.
8. (Original) The x-ray tube according to claim 2, wherein the structural material has a yield strength which is at least twice that of the thermally conductive material.
9. (Original) The x-ray tube according to claim 2, wherein the structural material includes stainless steel.
10. (Original) The x-ray tube according to claim 2, wherein the thermally conductive material includes copper.
11. (Currently Amended) The x-ray tube according to claim 2, wherein the liner includes a cylindrical side ~~(67, 67', 67'')~~, and a base ~~(68, 68', 68'')~~ and wherein the framework includes a cylindrical side ~~(75, 75', 75'')~~ and a base ~~(76, 76', 76'')~~, the side of the liner being joined to the side of the framework.
12. (Original) The x-ray tube according to claim 2, wherein one of the liner and the framework is received within the other of the liner and the framework.
13. (Currently Amended) The x-ray tube according to claim 2, wherein the liner defines a central aperture ~~(70, 70', 70'', 70''')~~ and the framework defines a central aperture ~~(78, 78', 78'', 78''')~~, the anode including a shaft ~~(17)~~ which extends through the central apertures.
14. (Currently Amended) The x-ray tube according to claim 2, wherein the liner and the framework define a fluid flow path ~~(120)~~ there between for the cooling fluid to contact the liner.

15. (Currently Amended) The x-ray tube according to claim 2, further including a plate ~~(44) which closes~~ configured to close an end ~~(42)~~ of the vessel ~~(40, 40', 40'', 40''')~~, the plate defining an aperture ~~(46)~~ through which a cathode assembly extends for emitting electrons that pass between a cathode and the anode.

16. (Original) The x-ray tube according to claim 2, wherein the vessel comprises a laminate of the conductive and structural materials.

17. (Currently Amended) An x-ray tube assembly ~~(40)~~ comprising:
the x-ray tube ~~(44)~~ of claim 1; and
a housing ~~(30)~~ surrounding at least a portion of the x-ray tube, the housing containing the cooling fluid.

18. (Currently Amended) A method of transferring heat from an x-ray tube ~~(44)~~ to a surrounding cooling fluid comprising;
conducting heat from an evacuated chamber ~~(14)~~ through a liner ~~(64, 64', 64'', 64''')~~ of the x-ray tube, the liner being formed from a thermally conductive material; and
restraining the liner against deformation with use of a structural framework, wherein restraining further includes defining at least one thermal window for placing the liner restrained by the structural framework in thermal contact with both the evacuated chamber and the surrounding cooling fluid, the thermally conductive material having (i) a thermal conductivity higher than a thermal conductivity of a material of the structural framework and (ii) a deformation resistance lower than a deformation resistance of the structural framework material ~~(62, 62', 62'', 62''')~~.

19. (Currently Amended) The method according to claim 18, wherein defining the at least one thermal window includes defining the structural framework defines at least one thermal window ~~(80, 80', 80'', 82, 82', 124)~~ in the structural framework, wherein the heat ~~flowing~~ flows directly between the liner and the surrounding cooling fluid in the thermal window.

20. (Currently Amended) An x-ray tube (44) comprising:

a thermally conductive liner ~~(64, 64', 64'', 64''')~~ which spaces configured to space an evacuated chamber (44) of the x-ray tube from a surrounding cooling fluid; and

a structural framework ~~(62, 62', 62'', 62''')~~ forming configured to form a cage which reinforces the liner against deformation, wherein the cage includes at least one thermal window configured to place the thermally conductive liner in thermal contact with both the evacuated chamber and the surrounding cooling fluid via the at least one thermal window.

21. (Currently Amended) The x-ray tube of claim 48 ~~20~~, further including an anode (42) mounted in the evacuated chamber.